REMARKS

Reconsideration of this application as amended is requested. By this amendment Applicants have amended the specification at page 6 to correct an obvious typographical error. Also the specification at page 3 has been amended to correct an apparent translation error from German to English. Annex A1, referenced in the specification at page 6, line 22, attached hereto as well. Further claims 1, 2, 8 and 9 have been amended for clarity. Claims 1-13 remain in the case.

The Examiner has rejected claims 1-3, 6-10 and 13 under 35 U.S.C. 102(b) as being anticipated by Swift et al ("Swift"), and claims 4, 5, 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over Swift.

In contradistinction to Applicants' claimed invention Swift describes a simple message sequence generator, i.e., transmitting of messages only. Applicants recite setting up a communication procedure which transmits and receives messages and reacts to received messages appropriately, i.e., the protocol tester communicates with another instance -- the device under test. In Swift a graphical user interface (GUI) allows a user to simply select a message type, content and sequencing the user wishes to generate, which messages may be sent to network management systems for testing of actual network events as opposed to communication procedures which consist of many events. The message sequences correspond to actual message sequences transmitted by network source objects to target objects in a production network. However this is not the setting up of a communication procedure, which is a bi-directional activity, but rather is a uni-directional message transmission system. The device under test in Swift is observed to see how it reacts to the messages received, but does not in turn send messages back to the message

sequence generator as part of a communication procedure.

A communication procedure is a step by step process by which instances interact with each other – one instance sends a message to another instance, which in turn sends a message back to the first instance, and depending upon the response the first instance then sends another message, etc. In other words a series of interactions occur between the two instances in order to accomplish a desired result, such as completing a mobile phone call. The Open Systems Interconnection (OSI) communication model describes a communication entity or instance by its protocol stack. OSI describes a 7-layer protocol stack with each layer communicating with the underlying/overlying layer via Service Access Points (SAPs). There may be multiple SAPs for management purposes or for data transition purposes. At the SAPs Abstract Service Primitives (ASPs) are exchanged that contain the message data or Protocol Data Units (PDUs). The OSI model is well known to those of ordinary skill in the art. In order to test a protocol layer of an instance or device under test (DUT), a protocol tester as another instance has to simulate the behavior of another protocol communication entity protocol layer. All underlying protocol layers have to work correctly to get a communication procedure working, i.e., to test ISDN layer 3 the underlying ISDN layer 2 protocol needs to be emulated because it transports the PDUs of layer 3 to the DUT. Selecting a protocol layer means the emulated layer – ISDN layer 2 in this example. Selecting an abstract communication interface refers to selecting the SAP. A protocol tester uses a pool of messages to simulate a protocol layer – ISDN layer 3 in this example. This pool contains the ASPs and PDUs to be sent or received, as well as parameter variables, all of which are stored in a description file – the communication data. The

selection is done via a graphical user interface (GUI) with the communication procedure itself being described by a message sequence chart (MSC) – a diagrammatic or graphical representation.

Applicants recite in claim 1 setting up a communication procedure (bi-directional) between instances, one of which is a protocol tester, whereas Swift teaches a message generator for simulating transmission (uni-directional) of messages (events) from one instance (switch or router) to another (a network management system). Applicants further recite the step of selecting the instances (Fig. 1) to take part in the communication procedure, where Swift generates messages addressed to a specific target object from the message generator. Then Applicants recite selecting the protocol layer for emulation (Fig. 2) required for the specific communication procedure, such as isdn layer 2 or the like, which is not the same as Swift selecting a network protocol, such as Internet Protocol (IP) or Transport Control Protocol (TCP). Further Applicants recite selecting the abstract communication interfaces (SAPs) (Fig. 3) of the emulated protocol layer for the communication procedure. There is no indication of selecting any SAP in Swift as Swift merely generates messages for generation and does not attempt to emulate a protocol layer. Applicants recite selecting the parameters in the SAP and communication data selecting steps graphically, not textually as in Swift, as part of automatically setting up (Fig. 6) the protocol tester for the communication procedure, i.e., converting the selected parameters into a selected interpreter script language such as ANS Forth.

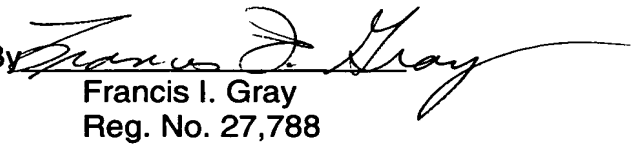
The Examiner states that Swift teaches selecting the instances that take part in a communication procedure, whereas Swift actually teaches selecting an instance to which messages are to be sent -- "define a sequence of messages and transmit

the messages to a target network object for testing." The Examiner further states that Swift teaches selecting a protocol layer, whereas Swift actually selects a protocol capable of transferring messages over a network rather than a protocol layer for emulation within a protocol. The Examiner then states that Swift teaches selecting abstract communication interfaces of the protocol layer, but a software application for building a message sequence does not infer selecting abstract communication interfaces. The Examiner does not say what in Swift corresponds to selecting the communication data, which data as now more clearly recited by Applicants is contained in description files that are exchanged at the abstract communication interfaces. Finally the Examiner vaguely states that Swift teaches the protocol tester set up of the communication procedure, whereas Swift builds a message sequence definition, stores it and then transmits from storage the message sequence corresponding to the message sequence definition which is not equivalent to setting up through the protocol tester the communication procedure. Thus claims 1 and 8 together with claims 2-7 and 9-13 dependent therefrom are deemed to be neither anticipated nor rendered obvious to one of ordinary skill in the art by Swift.

In view of the foregoing amendment and remarks allowance of claims 1-13 is urged, and such action and the issuance of this case are requested.
of this case is requested.

Respectfully submitted,

JOERG EHRHARDT et al

By 
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Annex A1

```
 ( ***** Tektronix MSC-Linker <V0.92.0> builds scenario 'isdn_user' **-*- forth
-*-** )

" $MSC$Script$" find [if] forget $MSC$Script$ [then] drop variable
$MSC$Script$
" emul"   find 0= [if] loadm emul   [then] drop
" error"  find 0= [if] loadm error  [then] drop
" mbslib" find 0= [if] loadm mbslib [then] drop
" mforth" find 0= [if] loadm mforth [then] drop
default-order
v_trace
v_screen

( >>>>>>>>>> Allocation <<<<<<<<<< )
( create instance variables and constants... )
CREATE $MSC$_InstanceVars 4 ALLOT


1 CONSTANT MSC_NUM_OF_INSTANCES
$MSC$_InstanceVars MSC_NUM_OF_INSTANCES 4 * 0 FILL
( create timer variables and constants... )
CREATE $MSC$_TimerVars 40 ALLOT
$MSC$_TimerVars 40 0 FILL
CREATE MSC_TIMER 20 ALLOT
MSC_TIMER 20 0 FILL
5 CONSTANT MSC_NUM_OF_TIMERS
( create pool variables and constants... )
CREATE $MSC$_PoolVars 4 ALLOT
1 CONSTANT MSC_NUM_OF_POOLS
$MSC$_PoolVars 4 0 FILL
( create message variables and constants... )
CREATE $MSC$_MsgVars 132 ALLOT
$MSC$_MsgVars 132 0 FILL
11 CONSTANT MSC_NUM_OF_MESSAGES
CREATE $MSC$_MsgDecodeVars 4 ALLOT
$MSC$_MsgDecodeVars 4 0 FILL
1 CONSTANT MSC_NUM_OF_MSGDECODEVARS  ( one per TM )
CREATE $MSC$_MsgFolderVars 44 ALLOT
$MSC$_MsgFolderVars 44 0 FILL
11 CONSTANT MSC_NUM_OF_FOLDERS
CREATE $MSC$_EventStructureVars MSC_NUM_OF_POOLS MSC_NUM_OF_INSTANCES * 4 *
ALLOT
$MSC$_EventStructureVars MSC_NUM_OF_POOLS MSC_NUM_OF_INSTANCES * 4 * 0 FILL
CREATE $MSC$_MsgSizeVars 4 ALLOT
$MSC$_MsgSizeVars 4 0 FILL
variable $MSC$_MsgMatched?
( create temporary variables and constants... )
variable $MSC$_TempFolderHandle
variable $MSC$_PDecoutVar
( create startstate variables... )
variable $MSC$_Req-State
```

```
( >>>>>>>>>> Constants <<<<<<<<<< )
( create mapping of gateway name to poolindex )
0 constant MSC-GW-Gateway_1 \ Mapping Gatewayname 'Gateway_1' -> Poolindex '0'

( >>>>>>>>>> Variables <<<<<<<<<< )
variable MSC-VAR-Gateway_1-SAPI
variable MSC-VAR-Gateway_1-TEI

( >>>>>>>>>> Commands <<<<<<<<<< )
include pc:boot:/share/pfe/msc_lib.4th

( constructor word ... )
: $MSC$_Constructor ( -- )
   " Cannot open pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'" "
pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc" 0 $MSC$_OpenPool \ open pool
'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdn12>'" " PROT<ETSI> send
to EMUL<isdn12>" 0 8 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdn12>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'rCONN_1'" " rCONN_1" 0 8 8 $MSC$_InitMsgVar \ init
message 'rCONN_1' of pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'


   " Cannot open folder  'PROT<ETSI> send to EMUL<isdn12>'" " PROT<ETSI> send
to EMUL<isdn12>" 0 3 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdn12>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'rDL_ESTABLISH_CNF_1'" " rDL_ESTABLISH_CNF_1" 0 3 3
$MSC$_InitMsgVar \ init message 'rDL_ESTABLISH_CNF_1' of pool
'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdn12>'" " PROT<ETSI> send
to EMUL<isdn12>" 0 2 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdn12>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'sDL_ESTABLISH_REQ_1'" " sDL_ESTABLISH_REQ_1" 0 2 2
$MSC$_InitMsgVar \ init message 'sDL_ESTABLISH_REQ_1' of pool
'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdn12>'" " PROT<ETSI> send
to EMUL<isdn12>" 0 4 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdn12>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'rDL_ESTABLISH_IND_1'" " rDL_ESTABLISH_IND_1" 0 4 4
$MSC$_InitMsgVar \ init message 'rDL_ESTABLISH_IND_1' of pool
'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdn12>'" " PROT<ETSI> send
to EMUL<isdn12>" 0 10 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdn12>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'rREL_COM_1'" " rREL_COM_1" 0 10 10 $MSC$_InitMsgVar
\ init message 'rREL_COM_1' of pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-
pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdn12>'" " PROT<ETSI> send
to EMUL<isdn12>" 0 7 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdn12>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'rALERT_1'" " rALERT_1" 0 7 7 $MSC$_InitMsgVar \
```

```
init message 'rALERT_1' of pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdnl2>'" " PROT<ETSI> send
to EMUL<isdnl2>" 0 9 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdnl2>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'sDISC_1'" " sDISC_1" 0 9 9 $MSC$_InitMsgVar \ init
message 'sDISC_1' of pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdnl2>'" " PROT<ETSI> send
to EMUL<isdnl2>" 0 6 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdnl2>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'rCALL_PROC_1'" " rCALL_PROC_1" 0 6 6
$MSC$_InitMsgVar \ init message 'rCALL_PROC_1' of pool 'pc:c:/k1297/MBS-
Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdnl2>'" " PROT<ETSI> send
to EMUL<isdnl2>" 0 1 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdnl2>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'rMDL_ASSIGN_CNF_1'" " rMDL_ASSIGN_CNF_1" 0 1 1
$MSC$_InitMsgVar \ init message 'rMDL_ASSIGN_CNF_1' of pool 'pc:c:/k1297/MBS-
Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdnl2>'" " PROT<ETSI> send
to EMUL<isdnl2>" 0 0 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdnl2>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   " Cannot init message 'sMDL_ASSIGN_REQ_1'" " sMDL_ASSIGN_REQ_1" 0 0 0
$MSC$_InitMsgVar \ init message 'sMDL_ASSIGN_REQ_1' of pool 'pc:c:/k1297/MBS-
Pools/STK-etsi93-pool1.pdc'
   " Cannot open folder 'PROT<ETSI> send to EMUL<isdnl2>'" " PROT<ETSI> send
to EMUL<isdnl2>" 0 5 $MSC$_OpenFolder \ open folder 'PROT<ETSI> send to
EMUL<isdnl2>' within pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'


   " Cannot init message 'sSETUP_1'" " sSETUP_1" 0 5 5 $MSC$_InitMsgVar \
init message 'sSETUP_1' of pool 'pc:c:/k1297/MBS-Pools/STK-etsi93-pool1.pdc'
   MSC-VAR-Gateway_1-SAPI " SAPI" " PROT<ETSI> send to EMUL<isdnl2>" 0
$MSC$_AssignMSCVar
   MSC-VAR-Gateway_1-TEI " TEI" " PROT<ETSI> send to EMUL<isdnl2>" 0
$MSC$_AssignMSCVar
   ;

( destructor word ... )
: $MSC$_Destructor ( -- )
   1 0 DO
      I $MSC$_GetPoolHandle k12mbspoolclose DROP
   LOOP
   ;

( >>>>>>>>>> Initialization <<<<<<<<<< )
5000 4 $MSC$_SetExtTimerVar \ init. timer 'T_Pause' of instance 'Phone'
45000 1 $MSC$_SetExtTimerVar \ init. timer 'T310' of instance 'Phone'
4000 0 $MSC$_SetExtTimerVar \ init. timer 'T303' of instance 'Phone'
30000 3 $MSC$_SetExtTimerVar \ init. timer 'T305' of instance 'Phone'
20000 2 $MSC$_SetExtTimerVar \ init. timer 'T_Call' of instance 'Phone'
0 0 $MSC$_InitMsg \ Create k12MBSevent structure for instance 'Phone' and
gateway 'Gateway_1'
```

```
TM0 ( >>>>>>>>>> start of instance 'Phone' <<<<<<<<<< )

( Segments of Instance 'Phone':
+--------+------------------------+-------------+-------------+
|   Type | Segment Name           | State       | Length      |
+--------+------------------------+-------------+-------------+
|  INIT  |  - no name -           | 0000000000  | 0000000001  |
|  END   |  - no name -           | 0000000001  | 0000000001  |
|  DOC   |  START                 | 0000000002  | 0000000004  |
|  DOC   |  NULL                  | 0000000006  | 0000000001  |
|  DOC   |  CALL_INITIATED        | 0000000007  | 0000000003  |
|  DOC   |  CALL_PROCEEDING       | 0000000010  | 0000000003  |
|  DOC   |  CALL_DELIVERED_ACTIV  | 0000000013  | 0000000002  |
|  DOC   |  DISCONNECT_REQUEST    | 0000000015  | 0000000004  |
|  CONN  |  NULL                  | 0000000019  | 0000000001  |
|  CONN  |  CALL_INITIATED        | 0000000020  | 0000000001  |
|  CONN  |  CALL_PROCEEDING       | 0000000021  | 0000000001  |
|  CONN  |  CALL_DELIVERED_ACTIV  | 0000000022  | 0000000001  |
+--------+------------------------+-------------+-------------+ )

    \ -----  init segment  -----
    0 STATE_INIT{
            128 " TM0 starts" $MSC$_TraceMsg
            0 $MSC$_ResetGotoModifierFlag \ init. instance 'Phone'
            4 $MSC$_InitTimerVar \ init. timer 'T_Pause'
            1 $MSC$_InitTimerVar \ init. timer 'T310'
            0 $MSC$_InitTimerVar \ init. timer 'T303'
            3 $MSC$_InitTimerVar \ init. timer 'T305'
            2 $MSC$_InitTimerVar \ init. timer 'T_Call'
            ( switch command for startstate... )
            $MSC$_Req-State @ CASE
              1 OF 2 NEW_STATE ENDOF


            2 OF 6 NEW_STATE ENDOF
            2 0 $MSC$_NewState ( goto START )
          ENDCASE
    }STATE_INIT

    \  ----- end segment -----
    1 STATE_INIT{
          " instance 'Phone' stops" $MSC$_PrintString
          128 " TM0 stops" $MSC$_TraceMsg
    }STATE_INIT
    1 STATE{
          ( this is the end state - loop forever )
    }STATE

    \  ----- document segment 'START' -----
    2 STATE_INIT{
          32 " Forthbox TE_cfg start " $MSC$_TraceMsg
```

```
          ( start forth box 'TE_cfg' ) " config lapd.General.Side=TE_PM"
EMU_ADMIN ( end forth box 'TE_cfg' )
          64 " Forthbox TE_cfg end " $MSC$_TraceMsg
          16 " Send message 'PROT<ETSI> send to EMUL<isdn12>/sMDL_ASSIGN_REQ_1'
over gateway 'Gateway_1 ' " $MSC$_TraceMsg
          " Cannot send message 'sMDL_ASSIGN_REQ_1'" 0 0 0 $MSC$_SendPrimitive
   }STATE_INIT
   2 STATE{
       " Error while matching primitive 'rMDL_ASSIGN_CNF_1'" 1 0 0
$MSC$_RecvPrimitive
       ACTION{
          8 " Received message 'PROT<ETSI> send to
EMUL<isdn12>/rMDL_ASSIGN_CNF_1' from gateway 'Gateway_1 ' " $MSC$_TraceMsg
          0 0 1 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rMDL_ASSIGN_CNF_1' and gateway 'Gateway_1'
          1 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdn12>/rMDL_ASSIGN_CNF_1' from gateway 'Gateway_1'
          0 $MSC$_ResetGotoModifierFlag
          16 " Send message 'PROT<ETSI> send to
EMUL<isdn12>/sDL_ESTABLISH_REQ_1' over gateway 'Gateway_1 ' " $MSC$_TraceMsg
          " Cannot send message 'sDL_ESTABLISH_REQ_1'" 2 0 0
$MSC$_SendPrimitive
          3 0 $MSC$_NewState
       }ACTION
       ?TM_TIMEOUT
       ACTION{
          1 " Unexpected timer event " $MSC$_TraceMsg
       }ACTION
       FALSE E-SAP @ 0 = OR
       ACTION{
          8 " Unexpected message event " $MSC$_TraceMsg
          0 0 1 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rMDL_ASSIGN_CNF_1' and gateway 'Gateway_1'
       }ACTION
   }STATE
   3 STATE_INIT{
          3 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdn12>/rDL_ESTABLISH_CNF_1' from gateway 'Gateway_1'



   4 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdn12>/rDL_ESTABLISH_IND_1' from gateway 'Gateway_1'
    }STATE_INIT
   3 STATE{
       " Error while matching primitive 'rDL_ESTABLISH_CNF_1'" 3 0 0
$MSC$_RecvPrimitive
       ACTION{
          0 0 3 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rDL_ESTABLISH_CNF_1' and gateway 'Gateway_1'
          0 0 4 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rDL_ESTABLISH_IND_1' and gateway 'Gateway_1'
```

```
            0 $MSC$_SetGotoModifierFlag
            4 0 $MSC$_NewState
         }ACTION
         " Error while matching primitive 'rDL_ESTABLISH_IND_1'" 4 0 0
   $MSC$_RecvPrimitive
         ACTION{
            0 0 3 $MSC$_FreeEventStructure \ free event structure of message
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_CNF_1' and gateway 'Gateway_1'
            0 0 4 $MSC$_FreeEventStructure \ free event structure of message
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_IND_1' and gateway 'Gateway_1'
            0 $MSC$_SetGotoModifierFlag
            5 0 $MSC$_NewState
         }ACTION
         ?TM_TIMEOUT
         ACTION{
            1 " Unexpected timer event " $MSC$_TraceMsg
            0 0 3 $MSC$_FreeEventStructure \ free event structure of message
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_CNF_1' and gateway 'Gateway_1'
            0 0 4 $MSC$_FreeEventStructure \ free event structure of message
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_IND_1' and gateway 'Gateway_1'
         }ACTION
         FALSE E-SAP @ 0 = OR
         ACTION{
            8 " Unexpected message event " $MSC$_TraceMsg
            0 0 3 $MSC$_FreeEventStructure \ free event structure of dessage
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_CNF_1' and gateway 'Gateway_1'
            0 0 4 $MSC$_FreeEventStructure \ free event structure of message
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_IND_1' and gateway 'Gateway_1'
         }ACTION
      }STATE
      4 STATE{
         " Error while matching primitive 'rDL_ESTABLISH_CNF_1'" 3 0 0
   $MSC$_RecvPrimitive
         ACTION{
            8 " Received message 'PROT<ETSI> send to
   EMUL<isdnl2>/rDL_ESTABLISH_CNF_1' from gateway 'Gateway_1 ' " $MSC$_TraceMsg
            0 0 3 $MSC$_FreeEventStructure \ free event structure of message
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_CNF_1' and gateway 'Gateway_1'
            3 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
   EMUL<isdnl2>/rDL_ESTABLISH_CNF_1' from gateway 'Gateway_1'
            0 $MSC$_ResetGotoModifierFlag
            6 0 $MSC$_NewState
         }ACTION
         ?TM_TIMEOUT
         ACTION{
            1 " Unexpected timer event " $MSC$_TraceMsg
         }ACTION
         FALSE E-SAP @ 0 = OR
         ACTION{
            8 " unexpected message event " $MSC$_TraceMsg
            0 0 3 $MSC$_FreeEventStructure \ free event structure of message
   'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_CNF_1' and gateway 'Gateway_1'
```

```
        }ACTION
      }STATE
    5 STATE{
        " Error while matching primitive 'rDL_ESTABLISH_IND_1'" 4 0 0
$MSC$_RecvPrimitive
        ACTION{
            8 " Received message 'PROT<ETSI> send to
EMUL<isdnl2>/rDL_ESTABLISH_IND_1' from gateway 'Gateway_1 ' " $MSC$_TraceMsg
            0 0 4 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_IND_1' and gateway 'Gateway_1'
            4 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rDL_ESTABLISH_IND_1' from gateway 'Gateway_1'
            0 $MSC$_ResetGotoModifierFlag
            6 0 $MSC$_NewState
        }ACTION
        ?TM_TIMEOUT
        ACTION{
            1 " Unexpected timer event " $MSC$_TraceMsg
        }ACTION
        FALSE E-SAP @ 0 = OR
        ACTION{
            8 " Unexpected message event " $MSC$_TraceMsg
            0 0 4 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rDL_ESTABLISH_IND_1' and gateway 'Gateway_1'
        }ACTION
     }STATE

        \  ----- document segment 'NULL' -----
    6 STATE_INIT{
            16 " Send message 'PROT<ETSI> send to EMUL<isdnl2>/sSETUP_1' over
gateway 'Gateway_1 ' " $MSC$_TraceMsg
            " Cannot send message 'sSETUP_1'" 5 0 0 $MSC$_SendPrimitive
            2 " Timer 'T303' set with value '4000'" $MSC$_TraceMsg
            4000 0 $MSC$_SetTimer \ timer 'T303'
            19 0 $MSC$_NewState
    }STATE_INIT


        \  ----- document segment 'CALL_INITIATED' -----
    7 STATE{
        " Error while matching primitive 'rCALL_PROC_1'" 6 0 0
$MSC$_RecvPrimitive
        ACTION{
            0 0 6 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1' and gateway 'Gateway_1'
            0 $MSC$_SetGotoModifierFlag
            8 0 $MSC$_NewState
        }ACTION
        0 $MSC$_Timeout \ timer 'T303'
        ACTION{
```

```
          0 0 6 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1' and gateway 'Gateway_1'
          0 $MSC$_SetGotoModifierFlag
          9 0 $MSC$_NewState
        }ACTION
        ?TM_TIMEOUT
        ACTION{
          1 " Unexpected timer event " $MSC$_TraceMsg
          0 0 6 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1' and gateway 'Gateway_1'
        }ACTION
        FALSE E-SAP @ 0 = OR
        ACTION{
          8 " Unexpected message event " $MSC$_TraceMsg
          0 0 6 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1' and gateway 'Gateway_1'
        }ACTION
      }STATE
    8 STATE{
        " Error while matching primitive 'rCALL_PROC_1'" 6 0 0
$MSC$_RecvPrimitive
        ACTION{
          8 " Received message 'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1'
from gateway 'Gateway_1 ' " $MSC$_TraceMsg
          0 0 6 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1' and gateway 'Gateway_1'
          6 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rCALL_PROC_1' from gateway 'Gateway_1'
          0 $MSC$_ResetGotoModifierFlag
          4 " Timer 'T303' reset" $MSC$_TraceMsg
          0 $MSC$_ResetTimer \ timer 'T303'
          2 " Timer 'T310' set with value '45000'" $MSC$_TraceMsg
          45000 1 $MSC$_SetTimer \ timer 'T310'
          20 0 $MSC$_NewState
        }ACTION
        ?TM_TIMEOUT
        ACTION{
          1 " Unexpected timer event " $MSC$_TraceMsg
        }ACTION
        FALSE E-SAP @ 0 = OR
        ACTION{
          8 " Unexpected message event " $MSC$_TraceMsg
          0 0 6 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1' and gateway 'Gateway_1'
        }ACTION
      }STATE
    9 STATE{
        0 $MSC$_Timeout \ timer 'T303'
        ACTION{
          1 " Received timeout 'T303' " $MSC$_TraceMsg
          0 $MSC$_ResetTimerFlag \ timer 'T303'
          0 $MSC$_ResetGotoModifierFlag
```

```
            20 0 $MSC$_NewState
         }ACTION
         ?TM_TIMEOUT
         ACTION{



            1 " Unexpected timer event " $MSC$_TraceMsg
         }ACTION
         FALSE E-SAP @ 0 = OR
         ACTION{
            8 " Unexpected message event " $MSC$_TraceMsg
         }ACTION
      }STATE

      \  ----- document segment 'CALL_PROCEEDING'  -----
      10 STATE{
         " Error while matching primitive 'rALERT_1'" 7 0 0 $MSC$_RecvPrimitive
         ACTION{
            0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rALERT_1' and gateway 'Gateway_1'
            0 $MSC$_SetGotoModifierFlag
            11 0 $MSC$_NewState
         }ACTION
         1 $MSC$_Timeout \ timer 'T310'
         ACTION{
            0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rALERT_1' and gateway 'Gateway_1'
            0 $MSC$_SetGotoModifierFlag
            12 0 $MSC$_NewState
         }ACTION
         ?TM_TIMEOUT
         ACTION{
            1 " Unexpected timer event " $MSC$_TraceMsg
            0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rALERT_1' and gateway 'Gateway_1'
         }ACTION
         FALSE E-SAP @ 0 = OR
         ACTION{
            8 " Unexpected message event " $MSC$_TraceMsg
            0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rALERT_1' and gateway 'Gateway_1'
         }ACTION
      }STATE
      11 STATE{
         " Error while matching primitive 'rALERT_1' " 7 0 0 $MSC$_RecvPrimitive
         ACTION{
            8 " Received message 'PROT<ETSI> send to EMUL<isdn12>/rALERT_1' from
gateway 'Gateway_1 ' " $MSC$_TraceMsg
            0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rALERT_1' and gateway 'Gateway_1'
            7 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
```

```
      }ACTION
      ?TM_TIMEOUT
      ACTION{
         1 " Unexpected timer event " $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
         8 " Unexpected message event " $MSC$_TraceMsg
         0 0 8 $MSC$_FreeEventStructure \ free event structure of message
 'PROT<ETSI> send to EMUL<isdn12>/rCONN_1' and gateway 'Gateway_1'
      }ACTION
    }STATE
   14 STATE{
      2 $MSC$_Timeout \ timer 'T_Call'
      ACTION{
         1 " Received timeout 'T_Call' " $MSC$_TraceMsg
         2 $MSC$_ResetTimerFlag \ timer 'T_Call'
         0 $MSC$_ResetGotoModifierFlag


         16 " Send message 'PROT<ETSI> send to EMUL<isdn12>/sDISC_1' over
 gateway 'Gateway_1 ' " $MSC$_TraceMsg
         " Cannot send message 'sDISC_1'" 9 0 0 $MSC$_SendPrimitive
         2 " Timer 'T305' set with value '30000'" $MSC$_TraceMsg
         30000 3 $MSC$_SetTimer \ timer 'T305'
         22 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
         1 " Unexpected timer event " $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
         8 " Unexpected message event " $MSC$_TraceMsg
      }ACTION
   }STATE

   \  ----- document segment 'DISCONNECT_REQUEST' -----
   15 STATE{
      " Error while matching primitive 'rREL_COM_1'" 10 0 0
$MSC$_RecvPrimitive
      ACTION{
         0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rREL_COM_1' and gateway 'Gateway_1'
         0 $MSC$_SetGotoModifierFlag
         16 0 $MSC$_NewState
      }ACTION
      3 $MSC$_Timeout \ timer 'T305'
      ACTION{
         0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rREL_COM_1' and gateway 'Gateway_1'
         0 $MSC$_SetGotoModifierFlag
```

```
         17 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
         1 " Unexpected timer event " $MSC$_TraceMsg
         0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rREL_COM_1' and gateway 'Gateway_1'
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
         8 " Unexpected message event " $MSC$_TraceMsg
         0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rREL_COM_1' and gateway 'Gateway_1'
      }ACTION
    }STATE
  16 STATE{
      " Error while matching primitive 'rREL_COM_1'" 10 0 0
$MSC$_RecvPrimitive
      ACTION{
         8 " Received message 'PROT<ETSI> send to EMUL<isdn12>/rREL_COM_1'
from gateway 'Gateway_1 ' " $MSC$_TraceMsg
         0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rREL_COM_1' and gateway 'Gateway_1'



         10 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdn12>/rREL_COM_1' from gateway 'Gateway_1'
         0 $MSC$_ResetGotoModifierFlag
         18 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
         1 " Unexpected timer event " $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
         8 " Unexpected message event " $MSC$_TraceMsg
         0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdn12>/rREL_COM_1' and gateway 'Gateway_1'
      }ACTION
   }STATE
   17 STATE{
      3 $MSC$_Timeout \ timer 'T305'
      ACTION{
         1 " Received timeout 'T305' " $MSC$_TraceMsg
         3 $MSC$_ResetTimerFlag \ timer 'T305'
         0 $MSC$_ResetGotoModifierFlag
         18 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
```

```
        1 " Unexpected timer event " $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
        8 " Unexpected message event " $MSC$_TraceMsg
      }ACTION
  }STATE
  18 STATE_INIT{
        2 " Timer 'T_Pause' set with value '5000'" $MSC$_TraceMsg
        5000 4 $MSC$_SetTimer \ timer 'T_Pause'
  }STATE_INIT
  18 STATE{
      4 $MSC$_Timeout \ timer 'T_Pause'
      ACTION{
        1 " Received timeout 'T_Pause' " $MSC$_TraceMsg
        4 $MSC$_ResetTimerFlag \ timer 'T_Pause'
        0 $MSC$_ResetGotoModifierFlag
        1 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
        1 " Unexpected timer event " $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
        8 " Unexpected message event " $MSC$_TraceMsg
      }ACTION
    }STATE

     \  ----- connector segment 'NULL' -----


  19 STATE_INIT{
        6 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdn12>/rCALL_PROC_1'
        0 $MSC$_ResetTimerFlag \ timer 'T303'
  }STATE_INIT
  19 STATE{
      " Error while matching primitive 'rCALL_PROC_1'" 6 0 0
 $MSC$_RecvPrimitive
      ACTION{
        0 0 6 $MSC$_FreeEventStructure \ free event structure of message
 'PROT<ETSI> send to EMUL<isdn12>/rCALL_PROC_1' and gateway 'Gateway_1'
        0 $MSC$_SetGotoModifierFlag
        6 $MSC$_SetMsgFlag \ message 'PROT<ETSI> send to
 EMUL<isdn12>/rCALL_PROC_1'
        7 0 $MSC$_NewState
      }ACTION
      0 $MSC$_Timeout \ timer 'T303'
      ACTION{
        0 0 6 $MSC$_FreeEventStructure \ free event structure of message
 'PROT<ETSI> send to EMUL<isdn12>/rCALL_PROC_1' and gateway 'Gateway_1'
```

```
        0 $MSC$_SetGotoModifierFlag
        0 $MSC$_SetTimerFlag \ timer 'T303'
        7 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
          " Unexpected timer event" $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
         " Unexpected message event" $MSC$_TraceMsg
         0 0 6 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCALL_PROC_1' and gateway 'Gateway_1'
      }ACTION
  }STATE

   \  ----- connector segment 'CALL_INITIATED' -----
  20 STATE_INIT{
         7 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rALERT_1'
         1 $MSC$_ResetTimerFlag \ timer 'T310'
  }STATE_INIT
  20 STATE{
      " Error while matching primitive 'rALERT_1'" 7 0 0 $MSC$_RecvPrimitive
      ACTION{
         0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rALERT_1' and gateway 'Gateway_1'
         0 $MSC$_SetGotoModifierFlag
         7 $MSC$_SetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rALERT_1'
         10 0 $MSC$_NewState
      }ACTION
      1 $MSC$_Timeout \ timer 'T310'
      ACTION{
         0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rALERT_1' and gateway 'Gateway_1'


          0 $MSC$_SetGotoModifierFlag
          1 $MSC$_SetTimerFlag \ timer 'T310'
          10 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
          " Unexpected timer event" $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
          " Unexpected message event" $MSC$_TraceMsg
          0 0 7 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rALERT_1' and gateway 'Gateway_1'
      }ACTION
```

```
   }STATE

    \  ----- connector segment 'CALL_PROCEEDING' -----
   21 STATE_INIT{
         8 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rCONN_1'
   }STATE_INIT
   21 STATE{
      " Error while matching primitive 'rCONN_1'" 8 0 0 $MSC$_RecvPrimitive
      ACTION{
          0 0 8 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCONN_1' and gateway 'Gateway_1'
          0 $MSC$_SetGotoModifierFlag
          8 $MSC$_SetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rCONN_1'
          13 0 $MSC$_NewState
      }ACTION
      ?TM_TIMEOUT
      ACTION{
          " Unexpected timer event" $MSC$_TraceMsg
      }ACTION
      FALSE E-SAP @ 0 = OR
      ACTION{
          " Unexpected message event" $MSC$_TraceMsg
          0 0 8 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rCONN_1' and gateway 'Gateway_1'
      }ACTION
   }STATE

    \  ----- connector segment 'CALL_DELIVERED_ACTIVE' -----
   22 STATE_INIT{
         10 $MSC$_ResetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rREL_COM_1'
          3 $MSC$_ResetTimerFlag \ timer 'T305'
   }STATE_INIT
   22 STATE{
      " Error while matching primitive 'rREL_COM_1'" 10 0 0
$MSC$_ RecvPrimitive
      ACTION{
          0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rREL_COM_1' and gateway 'Gateway_1'
          0 $MSC$_SetGotoModifierFlag


10 $MSC$_SetMsgFlag \ message 'PROT<ETSI> send to
EMUL<isdnl2>/rREL_COM_1'
          15 0 $MSC$_NewState
       }ACTION
       3 $MSC$_Timeout \ timer 'T305'
       ACTION{
          0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rREL_COM_1' and gateway 'Gateway_1'
```

```
            0 $MSC$_SetGotoModifierFlag
            3 $MSC$_SetTimerFlag \ timer 'T305'
            15 0 $MSC$_NewState
         }ACTION
         ?TM_TIMEOUT
         ACTION{
            " Unexpected timer event" $MSC$_TraceMsg
         }ACTION
         FALSE E-SAP @ 0 = OR
         ACTION{
            " Unexpected message event" $MSC$_TraceMsg
            0 0 10 $MSC$_FreeEventStructure \ free event structure of message
'PROT<ETSI> send to EMUL<isdnl2>/rREL_COM_1' and gateway 'Gateway_1'
         }ACTION
      }STATE
( >>>>>>>>>> end of instance 'Phone' <<<<<<<<<< )

 $MSC$_Constructor
 MSC_MENU_CTRL_FCT ( calls the menu control function )
 " MSC scenario 'isdn_user' loaded" $MSC$_PrintString
```